

August 7, 2003
Case No. US010315 (7790/40)
Serial No.: 09/921,031
Filed: August 2, 2001
Page 2

CLAIM AMENDMENTS

Claims 19-36 are currently pending in the application.

Please cancel claim 19-36 without disclaimer or prejudices as to the subject matter of claims 19-36.

Please add claims 37-56 as shown below.

The following listing of claims 1-56 will replace all prior versions, and listings, of claims in the application:

1.-36. (Cancelled)

37. (NEW) A system of controlling power to a high-intensity-discharge lamp, said system comprising:

a voltage sensor operable to generate a first sensing voltage indicative of a voltage across the lamp;

a current sensor operable to generate a second sensing voltage indicative of a current through the lamp; and

a control circuit operable to approximate a lamp power as a function of the first sensing voltage and the second sensing voltage, to compare the approximated lamp power and a reference voltage, and to regulate the power to the lamp based on the comparison of the approximated lamp power and the reference voltage,

wherein said voltage sensor is in electrical communication with said control circuit to apply the first sensing voltage to said control circuit, and

wherein said current sensor is in electrical communication with said control circuit to apply the second sensing voltage to said control circuit.

38. (NEW) The system of claim 37,

wherein said voltage sensor includes a voltage divider connected to said lamp to thereby generate the first sensing voltage; and

wherein said voltage divider is further connected to said control circuit to thereby apply the first sensing voltage to said control circuit.

August 7, 2003
Case No. US010315 (7790/40)
Serial No.: 09/921,031
Filed: August 2, 2001
Page 3

39. (NEW) The system of claim 37,
wherein said current sensor includes a resistor connected to said lamp
to thereby generate the second sensing voltage; and
wherein said resistor is further connected to said control circuit to
thereby apply the second sensing voltage to said control circuit.

40. (NEW) The system of claim 39,
wherein said voltage sensor includes a voltage divider connected to
said lamp to thereby generate the first sensing voltage; and
wherein said voltage divider is further connected to said control circuit
to thereby apply the first sensing voltage to said control circuit.

41. (NEW) The system of claim 37, wherein said control circuit includes:
a summing circuit operable to generate a summation voltage as a
function of a summation of the first sensing voltage and the second sensing voltage,
the summation voltage being indicative of the approximated lamp power;
a reference generator operable to generate the reference voltage; and
a comparator in electric communication with said summing circuit
whereby the summation voltage is applied to said comparator and in electric
communication with said reference generator whereby the reference voltage is applied
to said comparator, said comparator operable to compare the summation voltage and
the reference voltage to thereby generate a control voltage for regulating the power to
the lamp.

42. (NEW) The system of claim 41,
wherein said summing circuit includes means for adding a first
absolute value of the first sensing signal and a second absolute value of the second
sensing signal to thereby generate the summation voltage.

August 7, 2003

Case No. US010315 (7790/40)

Serial No.: 09/921,031

Filed: August 2, 2001

Page 4

b1

43. (NEW) The system of claim 41,
wherein said summing circuit includes means for adding a first average
of the first sensing signal and a second average of the second sensing signal to thereby
generate the summation voltage.

44. (NEW) The system of claim 41,
wherein the reference voltage has a sawtooth waveform.

45. (NEW) The system of claim 41, wherein said control circuit further
includes:
a current limiting circuit in electric communication with said
comparator whereby the control voltage is applied to said current limiting circuit,
wherein said current limiting circuit is operable to transition among a
plurality of inductive states as a function of the control voltage, and
wherein the current limiting circuit is in electric communication with
said lamp to regulate the power to the lamp as a function of the plurality of the
inductive states.

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46. (NEW) The system of claim 37, wherein said control circuit includes:
a signal conditioner operable to amplify the second sensing voltage;
a summing circuit in electric communication with said signal
conditioner whereby the amplified second sensing voltage is applied to said summing
circuit, said summing circuit operable to generate a summation voltage as a function
of a summation of the first sensing voltage and the amplified second sensing voltage,
the summation voltage being indicative of the approximated lamp power;
a reference generator operable to generate the reference voltage; and
a comparator in electric communication with said summing circuit
whereby the summation voltage is applied to said comparator and in electric
communication with said reference generator whereby the reference voltage is applied
to said comparator, said comparator operable to compare the summation voltage and
the reference voltage to thereby generate a control voltage for regulating the power to
the lamp.

b1

August 7, 2003
Case No. US010315 (7790/40)
Serial No.: 09/921,031
Filed: August 2, 2001
Page 5

b1

47. (NEW) The system of claim 46,
wherein said summing circuit includes means for adding a first
absolute value of the first sensing signal and a second absolute value of the amplified
second sensing signal to thereby generate the summation voltage.

48. (NEW) The system of claim 46,
wherein said summing circuit includes means for adding a first average
of the first sensing signal and a second average of the amplified second sensing signal
to thereby generate the summation voltage.

49. (NEW) The system of claim 46,
wherein the reference voltage has a sawtooth waveform.

50. (NEW) The system of claim 46, wherein said control circuit further
includes:
a current limiting circuit in electric communication with said
comparator whereby the control voltage is applied to said current limiting circuit,
wherein said current limiting circuit is operable to transition among a
plurality of inductive states as a function of the control voltage, and
wherein the current limiting circuit in electric communication with said
lamp to regulate the power to the lamp as a function of the plurality of inductive
states.

August 7, 2003

Case N . US010315 (7790/40)

Serial No.: 09/921,031

Filed: August 2, 2001

Page 6

B1

51. (NEW) A system of controlling power to a high-intensity-discharge lamp, said system comprising:

- a voltage sensor operable to generate a first sensing voltage indicative of a voltage across the lamp;
- a current sensor operable to generate a second sensing voltage indicative of a current through the lamp; and
- a control circuit including
 - means for amplifying the second sensing signal,
 - means for adding a first absolute value of the first sensing signal and a second absolute value of the amplified second sensing signal to thereby generate a summation voltage indicative of an approximated lamp power, and
 - means for comparing the summation voltage to a reference voltage to thereby generate a control voltage for regulating the power of the lamp.

not multiplication

52. (NEW) The system of claim 51,
wherein the reference voltage has a sawtooth waveform.

53. (NEW) The system of claim 51, wherein said control circuit further includes:

means for transitioning among a plurality of inductive states as a function of the control voltage to thereby regulate the power to the lamp.

August 7, 2003

Case No. US010315 (7790/40)

Serial No.: 09/921,031

Filed: August 2, 2001

Page 7

b1

54. (NEW) A system of controlling power to a high-intensity-discharge lamp, said system comprising:

- a voltage sensor operable to generate a first sensing voltage indicative of a voltage across the lamp;
- a current sensor operable to generate a second sensing voltage indicative of a current through the lamp; and
- a control circuit including
 - means for amplifying the second sensing signal,
 - means for adding a first average of the first sensing signal and a second average of the amplified second sensing signal to thereby generate a summation voltage indicative of an approximated lamp power;
 - means for comparing the summation voltage to a reference voltage to thereby generate a comparison voltage for regulating the power of the lamp.

Summation not multiplication!

55. (NEW) The system of claim 54,
wherein the reference voltage has a sawtooth waveform.

56. (NEW) The system of claim 54, wherein said control circuit further includes:
means for transitioning among a plurality of inductive states as a function of the control voltage to thereby regulate the power to the lamp.
